CLAIMS

1. Use of one or more magnetic particles in the manufacture of a medicament for administration to a patient to treat a disorder associated with a cellular or tissue structure, or the accumulation of an undesirable biological material, wherein the or each particle is intended to localise at or within the structure or material, and wherein the treatment is intended to be carried out by applying a magnetic field, to induce the or each particle to rotate, to thereby disrupt the structure or material, wherein the or each magnetic particle has intrinsic magnetization, said magnetization being stabilised by inherent magneto-crystalline anisotropy and/or by shape anisotropy.

2. Use according to claim 1, wherein the structure is a mammalian cell.

3. Use according to claim 1 or claim 2, wherein the structure is a tumour.

4. Use according to any preceding claim, wherein the or each particle comprises a targeting moiety.

5. Use according to claim 4, wherein the targeting moiety is an antibody.

6. Use according to claim 5, wherein the antibody is a cell-internalising antibody.

7. Use according to any preceding claim, wherein the particle(s) comprise a magnetic material with a magneto-crystalline anisotropy of at least $1 \times 10^5$ J/m$^3$.

8. Use according to claim 7, wherein the magnetic material is a rare-earth metal alloy or a crystalline hexaferrite.

9. Use according to any preceding claim, wherein the particle(s) comprise a coating of a bio-compatible material.

10. Use according to any preceding claim, wherein the magnetic material of the particle(s) is of a maximum dimension of from 50 nm to 500 nm.

11. Use according to any preceding claim, wherein the particle(s) have a total maximum dimension not exceeding 200 nm.

12. Use according to any preceding claim, wherein the particle(s) are substantially cuboid, oblate spheroid or prolate spheroid in shape.

13. A method for disrupting a material, comprising the steps of:

(i) localising one or more magnetic particles at or within the material; and

(ii) applying a magnetic field to the or each magnetic particle, to induce particle rotation and thereby disrupt the material, wherein the or each magnetic particle has intrinsic magnetization, said magnetization being stabilised by inherent magneto-crystalline anisotropy and/or by shape anisotropy and wherein the applied magnetic field direction and/or amplitude with respect to the material is varied over time.

14. A method according to claim 13, wherein the material is a biological material.

15. A method according to claim 13 or claim 14, wherein the material is a cellular or tissue structure.

16. A method according to any claims 5, 13 to 15, wherein the material is a mammalian cell.

17. A method according to any of claims 5, 13 to 16, wherein the material is a tumour.

18. A method according to any of claims 13 to 17, carried out *in vitro*.

19. A method according to any of claims 13 to 18, wherein the or each particle is as defined in any of claims 4 to 12.

20. A method according to any of claims 13 to 19, wherein the applied magnetic field has a flux density of from 0.01 to 2 Tesla.

21. A method according to any of claims 13 to 20, wherein the magnetic field variation is continuous.

22. A method according to any of claims 13 to 20, wherein the variation is discontinuous, the magnetic field being repeatedly applied after re-orienting the material.

23. A method according to any of claims 13 to 20, wherein the variation is discontinuous, the magnetic field being repeatedly applied after a predetermined wait period to allow the magnetic axis of the particle(s) to take up a random direction as a result of Brownian motion.

24. A method according to any of claims 13 to 23, wherein the variation is achieved by suitably controlling an external magnetic field generator.

25. A method according to claim 24, when dependent on any of claims 13 to 21, wherein the field direction is varied at a frequency up to 100 Hz.

26. A method according to any of claims 13 to 25, wherein the variation is achieved by moving the material.

27. A method according to claim 25, when dependent on any of claims 13 to 21, wherein the material is rotated at a frequency up to 10 Hz.

28. A method according to any of the preceding claims, further comprising obtaining a magnetic resonance image of the particle(s) prior to causing movement of the particle(s).

29. Apparatus for disrupting a material, the apparatus comprising a magnetic field generator for generating a magnetic field in a working volume; one or more magnetic particles localized at or in the material in the working volume, wherein the or each magnetic particle has intrinsic magnetization, said magnetization being stabilised by inherent magneto-crystalline anisotropy and/or by shape anisotropy; and a control system for causing a change in the magnetic field in the working volume with respect to the material so as to rotate the magnetic particle.

30. Apparatus according to claim 29, wherein the control system causes a relative movement between the magnetic field direction and the material.

31. Apparatus according to claim 30, wherein the control system causes a relative rotation between the magnetic field direction and the working volume.

32. Apparatus according to any of claims 29 to 31, wherein the control system is adapted to cause the magnetic field vector in the working volume to change with respect to the material in amplitude or direction or both.

33. Apparatus according to claim 32, wherein the control system is adapted to cause the magnetic field generator to change relative to the material.

34. Apparatus according to claim 29, wherein the control system is adapted to cause the magnetic field generator to pulse the amplitude of the magnetic field in the working volume.

35. Apparatus according to any of claims 29 to 34, wherein the working volume is located externally of the magnetic field generator.

36. Apparatus according to any of claims 29 to 35, wherein the magnetic field generator comprises one or more electromagnets.

37 Apparatus according to claim 36, wherein the or each electromagnet is fabricated from a high temperature superconductor.

38. Apparatus according to any of claims 29 to 37, wherein the magnetic field generated by the magnetic field generator has a field strength in the range 0.01 to 2 Tesla.

39. A magnetic particle as defined in any of claims 4 to 12.

40. A composition comprising a plurality of magnetic particles as defined in any of claims 4 to 12, in a pharmaceutically acceptable buffer, excipient or diluent.

41. A composition according to claim 40, for therapeutic use.